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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,860	04/23/2007	Jan de Bont	294-258 PC/T/US	3812
23869 7590 01/29/2009 HOFFMANN & BARON, LLP 6900 JERICHO TURNPIKE SYOSSET, NY 11791				
EXAMINER				
LILLING, HERBERT J				
ART UNIT		PAPER NUMBER		
1657				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/590,860

**Applicant(s)**

DE BONT ET AL.

**Examiner**

HERBERT J. LILLING

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12-04-2008 & 11-20-2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 11-20-2006

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1. Receipt is acknowledged of an election response and amendment to Claim 3 filed December 04, 2008 to an election requirement submitted on September 11, 2008.

2. Claims 1-11 are present in this application which is a 371 of PCT/NL05/00147 filed 03/01/2005 which claims benefit to EPO 04075638.9 filed 03/01/2004.

3. Applicant has elected without traverse the following:

A hydrocarbon selected from the following:

iii) para-hydroxystyrene

B. One or more components below of the solvent impregnated carrier:

1) polymeric carrier selected from:

a) polystyrene

2) inorganic carrier selected from:

c) aluminosilicates

3) carrier:

b) 1 (polymeric), , polystyrene

C. A biocatalyst selected from:

a) *Pseudomonas putida* .

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make

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and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

A) Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention in view of the preamble which is drawn to the "production of hydrocarbon", however the specification fails to teach the production of a "hydrocarbon" by the claimed process.

B) Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for the election of species "para hydroxystyrene".

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention in view of the following:

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(A) The scope of the term "hydrocarbon" according to the specification includes is drawn to the following:

"...hydrocarbons, such as 4-hydroxybenzoic acid and benzaldehyde, which process, at least in part, overcomes the above-mentioned disadvantages. Other examples of hydrocarbons that may be produced according to the present invention are catechols (e.g. 3-methylcatechol), benzylalcohol, cinnamic acid, as well as mixtures of these and other hydrocarbons.";

which compounds are not hydrocarbons per se according to the conventional definition.

The term hydrocarbon as noted by the following clearly indicates that the scope of the term employed in the instant specification is clearly erroneous: Hackh's Chemical Dictionary 4<sup>th</sup> ed, pub 1969 states on page 331 : "hydrocarbon. A compound consisting of only C and H.

Wikipedia on January 26, 2009 recites:

In **organic chemistry**, a **hydrocarbon** is an **organic compound** consisting entirely of **hydrogen** and **carbon**. With relation to chemical terminology, **aromatic hydrocarbons** or arenes, **alkanes**, **alkenes** and **alkyne**-based compounds composed entirely of carbon or hydrogen are referred to as "pure" hydrocarbons, whereas other hydrocarbons with bonded compounds or impurities of sulphur or nitrogen, are referred to as "impure", and remain somewhat erroneously referred to as hydrocarbons

Hydrocarbons are referred to as consisting of a "backbone" or "skeleton" composed entirely of **carbon** and **hydrogen** and other bonded compounds, **and lack** a functional group **that generally facilitates** combustion.

Applicant is required to be within the scope of the known meaning and standard for the term "hydrocarbon" which this specification clearly lacks. Thus, the Court(s) have determined that there are distinctness between applications whether or not the claims meet the principles of law for definiteness for those **applications before the USPTO and those patents issued** and litigated in the courts for validity of the patents.

*Ex parte* KENICHI MIYAZAKI Appeal 2007-3300 Decided: November 19, 2008

“The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. SafetyTravel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) .

#### **PRINCIPLES OF LAW**

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

#### **ANALYSIS**

Rejection of claims.. under 35 U.S.C. § 112, second Paragraph:

The Federal Circuit has held in post-issuance patent infringement cases that the definiteness requirement “does not compel absolute clarity” and “[o]nly claims ‘not amenable to construction’ or ‘insolubly ambiguous’ are indefinite” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations omitted). See also *StarScientific, Inc. v. R.J. Reynolds Tobacco Co.*, Appeal No. 07-1448, slip. op. at 22 (Fed. Cir. August 25, 2008) (“A claim term is not indefinite just because ‘it poses a difficult issue of claim construction,’” (quoting *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001))). The Federal Circuit has noted that such a high standard of ambiguity for finding indefiniteness is due to the statutory presumption of patent validity. *Exxon Research*, 265 F.3d at 1375 (“By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of patent validity.”) See also *Modine Mfg. Co. v. U.S. Int'l Trade Comm'n*, 75 F.3d 1545, 1557 (Fed. Cir. 1996) (rejecting

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indefiniteness argument after construing claims; stating that "when claims are amenable to more than one construction, they should when reasonably possible be interpreted to preserve their validity"); and *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996) (court chose the narrower of two equally plausible claim constructions in order to avoid invalidating the claims). This rule of reading claims narrowly in view of ambiguity runs counter to the USPTO's broader standard for claim construction during prosecution. In particular, unlike in post-issuance claim construction, the USPTO gives pending claims "their broadest reasonable interpretation consistent with the specification" and "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). This broader claim construction standard is justified because, during prosecution, the applicant has the opportunity to amend the claims, and the Federal Circuit has held that an applicant has the opportunity and the obligation to define his or her invention precisely during proceedings before the USPTO. See *In re Morris*, 127 F.3d 1048, 1056-57 (Fed. Cir. 1997) (35 U.S.C. 112, second paragraph, places the burden of precise claim drafting on the applicant); *In re Zletz*, 893 F.2d 319, 322 (Fed. Cir. 1989) (manner of claim interpretation that is used by courts in litigation is not the manner of claim interpretation that is applicable during prosecution of a pending application before the USPTO).

As set forth in the MPEP:

USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319, 321-22 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language

explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”).

The following has been emphasized that this Primary Examiner is following and this Decision has been upheld at the Board of Appeals:

**MPEP § 2106 (II) (Parallel citations omitted). As such, we employ a lower threshold of ambiguity when reviewing a pending claim for indefiniteness than those used by post-issuance reviewing courts. In particular, rather than requiring that the claims are insolubly ambiguous, we hold that if a claim is amenable to two or more plausible claim constructions, the USPTO is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claim unpatentable under 35 U.S.C. § 112, second paragraph, as indefinite.**

The USPTO, as the sole agency vested with the authority to grant exclusionary rights to inventors for patentable inventions, has a duty to guard the public against patents of ambiguous and vague scope. Such patents exact a cost on society due to their ambiguity that is not commensurate with the benefit that the public gains from disclosure of the invention. The USPTO is justified in using a lower threshold showing of ambiguity to support a finding of indefiniteness under 35 U.S.C. § 112, second paragraph, because the applicant has an opportunity and a duty to amend the claims during prosecution to more clearly and precisely define the metes and bounds of the claimed invention and to more clearly and precisely put the public on notice of the scope of the patent. As the Federal Circuit recently stated in *Halliburton Energy Servs.*: When a claim limitation is defined in purely functional terms, the task of determining whether that limitation is sufficiently definite is a difficult one that is highly dependent on context (e.g., the disclosure in the specification and the knowledge of a person of ordinary skill in the relevant art area). We note that the patent drafter is in the best position to resolve the ambiguity in the patent claims, and it is highly desirable that patent examiners demand that applicants do so in



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appropriate circumstances so that the patent can be amended during prosecution rather than attempting to resolve the ambiguity in litigation.  
Halliburton Energy Servs. v. M-ILLC 514 F.3d 1244, 1255 (Fed. Cir. 2008)"

The claimed subject matter should be rejected and "amended during prosecution rather than attempt to resolve the ambiguity in litigation."; as noted above as well as the following outlined specific points outlined

Because claims delineate the patentee's right to exclude, the patent statute requires that the scope of the claims be sufficiently definite to inform the public of the bounds of the protected invention, i.e., what subject matter is covered by the exclusive rights of the patent. Otherwise, competitors cannot avoid infringement, defeating the public notice function of patent claims.

Nevertheless, this standard is met where an accused infringer shows by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area.

where a claim is ambiguous as to its scope we have adopted a narrowing construction when doing so would still serve the notice function of the claims. See *Athletic Alternatives*, 73 F.3d at 1581 ("Where there is an equal choice between a broader and a narrower meaning of a claim, and there is an enabling disclosure that indicates that the applicant is at least entitled to a claim having the narrower meaning, we consider the notice function of the claim to be best served by adopting the narrower meaning.").

The claimed subject matter in light of the specification has been considered that above term "hydrocarbon" is vague and indefinite which renders the claims 1-11 unpatentable under the guidelines set forth in **Precedential** Decision noted above.

The language of the claims must make it clear what subject matter the claims encompass to adequately delineate their "metes and bounds". The courts have also indicated that before claimed subject matter can properly be compared to the prior art, it is essential to know what the claims do in fact cover.

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Claims 1-11 fail to comply with the above and are unpatentable under 35 USC 112 second paragraph.

B) In Claim 4, line 2, the term “preferably” renders the claim vague and indefinite in view of the following:

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 4 recites the broad recitation “an inorganic carrier”, and the claim also recites the term “preferably” which is the narrower statement of the range/limitation.

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7. The disclosure is objected to under 37 CFR 1.71, as being so incomprehensible as to preclude a reasonable search of the prior art by the examiner. For example, the following items are not understood: the term "hydrocarbon" does not encompass the compounds having a functional group and not within the scope of the term "hydrocarbon" as known in the art.

Applicant is required to submit a specification which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

8. The art of record has been initialed but cannot be properly examined for the scope of the claimed subject matter in view of the ambiguity of the term "hydrocarbon" for a proper search and examination of the art of record as well as preparing a computerized search.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HERBERT J. LILLING whose telephone number is 571-272-0918. The examiner can normally be reached on WORK AT HOME MAXIFLEX.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JON WEBER can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

H.J.Lilling: HJL  
(571) 272-0918

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January 26, 2009

/HERBERT J LILLING/  
Primary Examiner Art Unit 1657